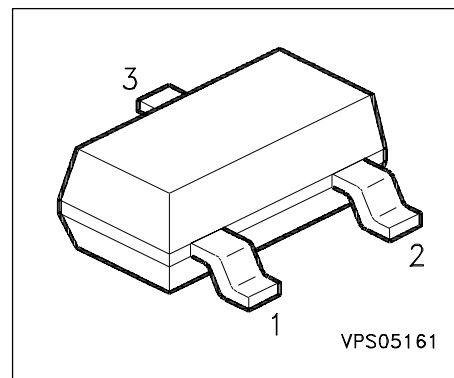


### Silicon Variable Capacitance Diode

- For FM radio tuner with extended frequency band
- High tuning ratio low supply voltage (car radio)
- Monolithic chip (common cathode) for perfect dual diode tracking
- Good linearity of C-V curve
- High figure of merit



Type	Marking	Ordering Code	Pin Configuration			Package
BB 914	SMs	Q62702-B673	1 = A1	2 = A2	3=C1/2	SOT-23

### Maximum Ratings

Parameter	Symbol	Values	Unit
Diode reverse voltage	$V_R$	18	V
Peak reverse voltage	$V_{RM}$	20	
Forward current, $T_A \leq 60^\circ\text{C}$	$I_F$	50	mA
Operating temperature range	$T_{op}$	- 55 ... + 125	$^\circ\text{C}$
Storage temperature	$T_{stg}$	- 55 ... + 150	

### Thermal Resistance

Junction - ambient	$R_{thJA}$	$\leq 600$	K/W
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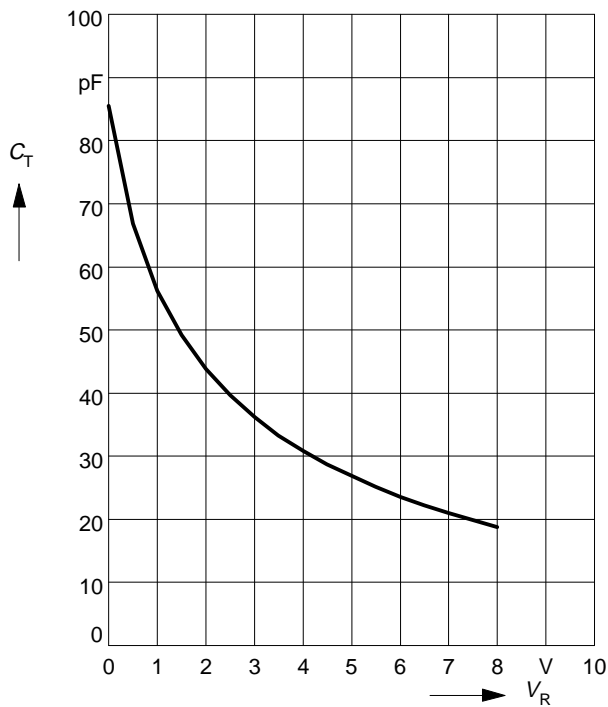
**Electrical Characteristics** at  $T_A=25^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Reverse current $V_R = 16\text{ V}$ , $T_A = 25\text{ }^{\circ}\text{C}$ $V_R = 16\text{ V}$ , $T_A = 60\text{ }^{\circ}\text{C}$	$I_R$	- -	- -	20 200	nA
AC characteristics					
Diode capacitance $V_R = 2\text{ V}$ , $f = 1\text{ MHz}$ $V_R = 8\text{ V}$ , $f = 1\text{ MHz}$	$C_T$	42.5 17.6	43.75 18.7	45 19.75	pF
Capacitance ratio $V_R = 2\text{ V}$ , $V_R = 8\text{ V}$ , $f = 1\text{ MHz}$	$C_{T2}/C_{T8}$	2.28	2.34	2.42	-
Capacitance matching 2) $V_R = 2\text{ V}$ , $V_R = 8\text{ V}$ , $f = 1\text{ MHz}$	$\Delta C_T/C_T$	-	-	1.5	%
Series resistance $C_T = 38\text{ pF}$ , $f = 100\text{ MHz}$	$r_s$	-	0.28	-	$\Omega$

## Diode capacitance per diode

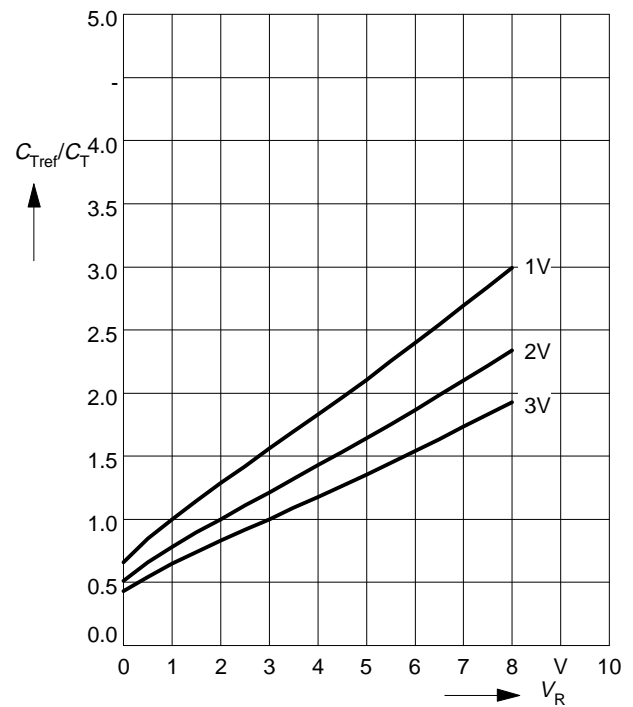
$$C_T = f(V_R)$$

$f = 1\text{MHz}$



## Capacitance ratio $C_{Tref}/C_T = f(V_R)$

$V_{ref} = \text{Parameter}, f = 1\text{MHz}$



## Package

